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EXAMINER

SHEPARD, JUSTIN E

ART UNIT PAPER NUMBER

2617

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,973

Applicant(s)

EYER, MARK K.

Examiner

Justin E. Shepard

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 2/21/06 have been fully considered but they are not persuasive.

Page 13, first paragraph.

The applicant argues that Wheeler teaches combining a USB signal on a standard video cable. The examiner disagrees that this is what Wheeler teaches. On column 2, lines 25-29 Wheeler discloses a video/USB cable wherein the cable is made to meet the DVI specification. This is the same as the limitation claimed by the applicant.

The applicant also argues that Kishon discloses a USB to firewire bridge. While this is true, Kishon also discloses a firewire to USB bridge. Observing figure 1, the applicant will see that in box 170 that the firewire signals are converted to USB. In box 102, the applicant will see that USB signals are converted for transfer. As the examiner is using this reference for transforming the signals in both directions, it is inconsequential that the transfer of data is over firewire.

The examiner states that the transferring of firewire data over the DVI cable is occurring despite the fact that they are converted into USB signals for the trip. The signals enter the system as firewire signals, and leave the system as firewire signals. Therefore the references meet the limitations of the claims and the rejection stands.

Page 13, second paragraph.

The applicant claims that hindsight was used to achieve the combination used. The examiner states that the combination is valid, and does not use hindsight. The examiner's motivation to combine was to use the system to transfer video signals from a digital camcorder to the display. As video signals from camcorders are commonly only outputted over firewire and not USB, Wheeler would need addition of Kishon to be able to perform this function.

The remaining arguments deal with the fact that the combination of Wheeler and Kishon is improper. As the examiner has shown that this combination is proper, these arguments are moot and the rejections stand.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-9, 11-17, 19-26, 28-31, 33-36, and 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheeler in view of Kishon.

Referring to claim 1, Wheeler discloses a DVI connector for receiving and transmitting DVI signals and USB signals over a DVI cable comprising (column 1, lines 58-60): a. means for receiving and transmitting the DVI signals configured for coupling

to the DVI cable for transmitting and receiving the DVI signals (column 2, lines 25-29); and b. means for receiving and transmitting the USB signals configured for coupling to the DVI cable for transmitting and receiving the USB (figure 3).

Wheeler does not disclose a DVI cable wherein IEEE 1394 signals are transferred over the cable.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Referring to claim 2, Wheeler discloses a DVI connector as claimed in claim 1 wherein the means for receiving and transmitting the DVI signals includes a plurality of digital pins corresponding to a first link (column 3, lines 35-36).

Referring to claim 3, Wheeler discloses a DVI connector as claimed in claim 2 wherein the plurality of digital pins includes twenty-four pins (column 3, lines 55-56).

Referring to claim 4, Wheeler discloses a DVI connector as claimed in claim 1 wherein the means for receiving and transmitting the USB signals includes a plurality of digital pins corresponding to a second link (column 3, lines 36-37).

Wheeler does not disclose a DVI connector transmitting IEEE 1394 signals.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Referring to claim 6, Wheeler discloses a DVI connector as claimed in claim 4 wherein the plurality of digital pins communicate digital signals substantially according to the USB standard (column 1, lines 58-60).

Wheeler does not disclose a DVI connector transmitting IEEE 1394 signals.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Claims 21, 25, 31, and 40 are rejected on the same grounds as claim 6.

Referring to claim 7, Wheeler discloses a DVI connector as claimed in claim 1 wherein the means for receiving and transmitting the DVI signals is further configured

for coupling to a selective one of a DVI transmitter circuit and a DVI receiver circuit for transmitting and receiving the DVI signals (figure 3, parts 320 and 361).

Claims 15 and 34 are rejected on the same grounds as claim 7.

Referring to claim 8, Wheeler discloses a DVI connector as claimed in claim 7 wherein the DVI signals from the DVI transmitter circuit are transmitted over the DVI cable to a receiving device (column 1, lines 58-60; column 2, lines 25-29; figure 3, part 320).

Claims 16 and 35 are rejected on the same grounds as claim 8.

Referring to claim 9, Wheeler discloses a DVI connector as claimed in claim 7 wherein the DVI signals received from the DVI cable are provided to the DVI receiver circuit (column 1, lines 58-60; column 2, lines 25-29; figure 3, part 361).

Claims 17 and 36 are rejected on the same grounds as claim 9.

Referring to claim 11, Wheeler discloses a DVI connector as claimed in claim 1 wherein the means for receiving and transmitting the USB signals is further configured for coupling to an USB interface circuit (figure 3, parts 310 and 362).

Wheeler does not disclose a DVI connector transmitting IEEE 1394 signals.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to

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the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Claim 38 is rejected on the same grounds as claim 11.

Referring to claim 12, Wheeler discloses a DVI connector as claimed in claim 1 further comprising the DVI enable coupled to the means for receiving and transmitting the DVI signals and to the means for receiving and transmitting the USB (column 1, lines 58-60; column 2, lines 25-29).

Wheeler does not disclose a DVI connector transmitting IEEE 1394 signals.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Referring to claim 13, Wheeler does not disclose a DVI connector as claimed in claim 1 wherein the IEEE 1394 signals include isochronous and asynchronous data.

Wheeler does not disclose a DVI cable wherein IEEE 1394 signals are transferred over the cable.

Kishon discloses that IEEE 1394 signals include isochronous and asynchronous data (column 5, lines 37-38).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. It would also be obvious to one of ordinary skill in the art to note that if a device could convert and transmit firewire signals through a USB cable, that it would be able to convert any type of firewire signal. The motivation would have been to enable the transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Claim 22 is rejected on the same grounds as claim 13.

Referring to claim 14, Wheeler discloses a DVI connector configured to receive and transmit DVI signals and USB signals over a DVI cable comprising (column 1, lines 58-60): a first plurality of pins configured to couple to the DVI cable to transmit and receive the DVI signals (column 3, lines 35-36); and a second plurality of pins configured to couple to the DVI cable to transmit and receive the USB signals (column 3, lines 36-37).

Wheeler does not disclose a DVI cable wherein IEEE 1394 signals are transferred over the cable.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to

the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders)..

Referring to claim 19, Wheeler discloses a DVI connector as claimed in claim 14 wherein the second plurality of pins are further configured to couple to an USB interface circuit (column 3, lines 36-37).

Wheeler does not disclose a DVI cable wherein IEEE 1394 signals are transferred over the cable.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Referring to claim 20, Wheeler discloses a DVI connector as claimed in claim 14 further comprising the DVI cable coupled to the first plurality of pins and to the second plurality of pins (column 3, lines 35-36).

Referring to claim 23, Wheeler discloses a DVI connector for receiving and transmitting USB signals over a DVI cable (column 1, lines 58-60) comprising a plurality of pins configured for coupling to the DVI cable for transmitting and receiving the USB signals (figure 3, part 230), wherein the plurality of pins are further configured for coupling to an USB interface circuit (column 3, lines 36-37).

Wheeler does not disclose a DVI cable wherein IEEE 1394 signals are transferred over the cable.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Referring to claim 24, Wheeler discloses a DVI connector as claimed in claim 23 wherein the plurality of pins are digital pins within a DVI connector (column 3, lines 35-37; column 2, lines 25-29)).

Referring to claim 26, Wheeler discloses a DVI connector as claimed in claim 23 further comprising the DVI cable coupled to the plurality of pins (column 3, lines 35-37).

Referring to claim 28, Wheeler discloses a method of receiving and transmitting DVI signals and USB signals over a DVI cable comprising (column 1, lines 58-60): a. communicating the DVI signals over the DVI cable (column 3, lines 35-36); and b. communicating the USB signals over the DVI cable (column 3, lines 36-37).

Wheeler does not disclose a DVI cable wherein IEEE 1394 signals are transferred over the cable.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Referring to claim 29, Wheeler discloses a method as claimed in claim 28 wherein the DVI signals are communicated over a plurality of digital pins in a connector and a plurality of digital signal lines within the DVI cable (column 3, lines 35-36; column 2, lines 25-29).

Referring to claim 30, Wheeler discloses a method as claimed in claim 28 wherein the USB signals are communicated over a plurality of digital pins in a connector and a plurality of digital signal lines within the DVI cable (column 3, lines 36-37).

Wheeler does not disclose a DVI cable wherein IEEE 1394 signals are transferred over the cable.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Referring to claim 33, Wheeler discloses a communication device for transmitting and receiving signals with other devices including a DVI connector for receiving and transmitting DVI signals and USB signals over a DVI cable (column 1, lines 58-60; column 2, lines 25-29), the DVI connector comprising: a first plurality of pins configured for coupling to the DVI cable for transmitting and receiving the DVI signals (column 3, lines 35-36); and b. a second plurality of pins configured for coupling to the DVI cable for transmitting and receiving the USB signals (column 3, lines 36-37).

Wheeler does not disclose a DVI cable wherein IEEE 1394 signals are transferred over the cable.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Referring to claim 39, Wheeler discloses a communication device as claimed in claim 33 further comprising the DVI cable coupled to the first plurality of pins and to the second plurality of pins (column 3, lines 35-37).

Referring to claim 41, Wheeler discloses a network of devices comprising: a DVI cable including digital signal lines with a first plurality of the digital signal lines corresponding to a first link (figure 3, part 240) and a second plurality of the digital

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signal lines corresponding to a second link (figure 3, part 260); a source device including: a DVI transmitter circuit configured for transmitting DVI signals (column 2, lines 25-29); a first USB interface circuit for communicating USB signals (column 1, lines 58-60); and a first DVI connector coupled to the DVI cable for transmitting the DVI signals and transmitting and receiving the USB signals (figure 3, part 240), the first DVI connector including: a first plurality of digital pins coupled to the first plurality of digital signal lines of the DVI cable and to the DVI transmitter circuit for transmitting the DVI signals (column 3, lines 35-36); and a second plurality of digital pins coupled to the second plurality of digital signal lines of the DVI cable and to the first USB interface circuit for transmitting and receiving the USB signals (column 3, lines 36-37); and a receiving device including: a DVI receiver circuit configured for receiving the DVI signals (figure 3, part 361); ii. a second USB interface circuit for communicating the USB signals (figure 3, part 362); and iii. a second DVI connector coupled to the DVI cable for receiving DVI signals and transmitting and receiving the USB signals (figure 3, parts 361 and 362), the second DVI connector including: A. a third plurality of digital pins coupled to the first plurality of digital signal lines of the DVI cable and to the DVI receiver circuit for receiving the DVI signals (column 3, lines 35-36); and B. a fourth plurality of digital pins coupled to the second plurality of digital signal lines of the DVI cable and to the second USB interface circuit for transmitting and receiving the USB signals (column 3, lines 36-37).

Wheeler does not disclose a DVI cable wherein IEEE 1394 signals are transferred over the cable.

Kishon discloses a system where IEEE 1394 signals are converted to USB (column 6, lines 36-45) and vice versa (column 6, lines 21-27).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the firewire to USB bridge disclosed in Kishon to the system disclosed by Wheeler. The motivation would have been to enable the transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Claims 5 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheeler in view of Kishon as applied to claims 4 and 23 above, and further in view of Matrox.

Referring to claim 5, Wheeler does not disclose a DVI connector as claimed in claim 4 wherein the plurality of digital pins includes four pins and carries two differential signal pairs.

Matrox discloses a P&D connector where a plurality of digital pins includes four pins and carries two differential signal pairs (page 13).

At the time of the invention it would have been obvious for one of ordinary skill in the art to include two differential signal pairs in the digital video cable, as taught by Matrox, in the cable disclosed by Wheeler in view of Kishon. The motivation would have been that the system disclosed by Wheeler only uses 20 of the 24 pins available in the DVI connector; and would therefore be obvious for a person to send firewire over the cable instead of USB. Additional motivation would have been to enable the

transferring of video directly to the monitor over the firewire connection provided from digital camcorders (firewire being the most common digital connector for digital camcorders).

Claim 27 is rejected on the same ground as claim 5.

Claims 10, 18, 32, 37, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wheeler in view of Kishon as applied to claims 1, 14, 28, 33, and 41 above, and further in view of Klinger.

Referring to claim 10, Wheeler does not disclose a DVI connector as claimed in claim 1 wherein DVI data transmitted using the DVI signals and IEEE 1394 data transmitted using the IEEE 1394 signals are synchronized for output at a receiving device.

Klinger discloses a method of synchronizing sound transmitted through a DVI cable with the video information (column 1, lines 8-14).

At the time of the invention it would have been obvious for one of ordinary skill in the art to add the sound synchronizing method, taught by Klinger, to the system disclosed by Wheeler in view of Kishon. Wheeler discloses transmitting the audio portion of the media over the USB (column 4, lines 35-36). It would therefore be obvious for one of ordinary skill in the art to see that in a system where the audio is sent over the DVI line and synced up using the method taught by Klinger. The motivation for doing this would have been to enhance sound quality (Klinger: column 1, lines 12-13).

Claims 18, 32, 37, and 42 are rejected on the same grounds as claim 10.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin E. Shepard whose telephone number is (571) 272-5967. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JS



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PRIMARY EXAMINER